

CLAIMS

What is claimed is:

1. A method comprising:
powering a drill motor with power derived from an all terrain vehicle (ATV) engine; and
controlling the drill motor.
2. The method of claim 1, further comprising:
drilling into the earth to a depth.
3. The method of claim 2, wherein the drilling is selected from the group consisting of rock coring, mud rotary drilling, solid stem auger drilling and hollow stem auger drilling.
4. The method of claim 2, further comprising:
taking a standard penetration test core sample at the depth.
5. The method of claim 2, wherein the drilling into the earth occurs with a sample tube residing within a hollow drill bit.
6. The method of claim 1, further comprising:

placing an ATV transmission into a neutral position such that power is not delivered to ATV wheels while power is directed to the drill motor.

7. The method of claim 1, wherein the controlling is done wirelessly.

8. An apparatus comprising:

an all terrain vehicle (ATV);

a power takeoff configured to deliver power from an ATV engine;

a drill mast moveably coupled to the ATV;

a drill motor configured to turn a drill bit, the drill motor slidably disposed on the drill mast, the drill motor is configured to be powered from the power takeoff; and

a control configured to operate the drill motor such that a hole can be drilled by the drill bit.

9. The apparatus of claim 8, further comprising:

a hydraulic pump, the hydraulic pump is configured to be operated by the power takeoff and the drill motor is a hydraulic motor, the hydraulic motor is configured to receive hydraulic fluid from the hydraulic pump.

10. The apparatus of claim 8, wherein a type of drilling is selected from the group consisting of rock coring, mud rotary drilling, solid stem auger drilling and hollow stem auger drilling.

11. The apparatus of claim 8, wherein the control is a manual control.
12. The apparatus of claim 8, wherein the control utilizes a wireless link to provide control of the drill motor using a remote control device.
13. The apparatus of claim 12, wherein the remote control device controls a position of the drill motor on the drill mast.
14. The apparatus of claim 12, wherein the remote control device controls a speed of rotation of the drill bit.
15. The apparatus of claim 8, further comprising:
 - a sheave rotateably configured on the drill mast;
 - a motor coupled with the sheave; and
 - an impact hammer, the impact hammer is configured to be raised by a flexible cord, wherein the flexible cord is directed by the drill mast and is received onto the sheave, such that the impact hammer is raised thereby.
16. The apparatus of claim 15, further comprising:
 - a sample tube, wherein the sample tube resides within the drill bit while the drill bit is turning, such that the hole is bored with the sample tube contained within the drill bit.

17. The apparatus of claim 16, further comprising:
a core sample, the core sample can be collected once the drill bit reaches a depth by dropping the impact hammer on a sample tube extension member.
18. The apparatus of claim 8, further comprising:
a sample tube, wherein the sample tube resides within the drill bit while the drill bit is turning, such that the hole is bored with the sample tube contained within the drill bit.
19. The apparatus of claim 8, wherein the drill mast is configured to rotate about one axis relative to the ATV.
20. The apparatus of claim 8, wherein the drill mast is configured to rotate about two axes relative to the ATV.
21. The apparatus of claim 8, wherein the drill mast is configured to articulate in a ball and socket.
22. An apparatus comprising:
a means for propelling an all terrain vehicle (ATV) on the ground;
a means for orienting a drill motor in space, wherein the drill motor is coupled with the ATV; and

a means for drilling into the ground.

23. The apparatus of claim 22, further comprising:

a means for controlling the drill motor.

24. The apparatus of claim 22, further comprising:

a means for taking a core sample at a depth below a surface of the ground.

25. The apparatus of claim 22, further comprising:

a means for drilling into the ground while a sample tube is conveyed proximate to a drill bit.

26. The apparatus of claim 22, further comprising:

a means for drilling into the ground, wherein a type of drilling is selected from the group consisting of rock coring, mud rotary drilling, solid stem auger drilling and hollow stem auger drilling.

27. The apparatus of claim 22, further comprising:

a means for drilling wherein the drill motor is simultaneously powered by the ATV and decoupled from the ATV.

28. An apparatus comprising:

an all terrain vehicle (ATV);
a power takeoff configured to deliver power from an ATV engine;
a drill mast removably coupled to the ATV;
a drill motor configured to turn a drill bit, the drill motor slidably disposed on the drill mast, the drill motor is configured to be powered from the power takeoff; and
a control configured to operate the drill motor such that a hole can be drilled by the drill bit.

29. The apparatus of claim 28, further comprising:

a drill mast stand, the drill mast stand is configured to receive the drill mast when the drill mast is removed from the ATV to facilitate drilling while the drill motor is powered from the power takeoff.

30. The apparatus of claim 28, further comprising:

a hydraulic pump, the hydraulic pump is configured to be operated by the power takeoff and the drill motor is a hydraulic motor, the hydraulic motor is configured to receive hydraulic fluid from the hydraulic pump.

31. The apparatus of claim 28, wherein a type of drilling is selected from the group consisting of rock coring, mud rotary drilling, solid stem auger drilling and hollow stem auger drilling.

32. The apparatus of claim 28, wherein the control is a manual control.
33. The apparatus of claim 28, wherein the control utilizes a wireless link to provide control of the drill motor using a remote control device.
34. The apparatus of claim 33, wherein the remote control device controls a position of the drill motor on the drill mast.
35. The apparatus of claim 33, wherein the remote control device controls a speed of rotation of the drill bit.